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| 10/658,751 | 09/10/2003 | Yasuo Cho | 4105-22 | 3412 |

23117 7590 06/08/2007
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| EXAMINER |
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PATEL, GAUTAM

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| ART UNIT | PAPER NUMBER |
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2627

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06/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|----------------------------|--|
| Office Action Summary | Application No. 10/658,751 | Applicant(s) CHO ET AL. | |
| | Examiner Gautam R. Patel | Art Unit 2627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>5/8/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-11 are pending for the examination.

Claim Rejections - 35 U.S.C. § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11 are rejected under 35 U.S.C. § 102(e) as being anticipated by Onoe et al., US. patent 7,221,639 (hereafter Onoe).

As to claim 1, Onoe discloses the invention as claimed [see Figs. 7-8] including a dielectric reproducing apparatus, comprising a probe, an alternating current signal generation device, an oscillation device and a demodulation device, comprising:

a probe for detecting a capacitance of the dielectric material which differs depending on a polarization state of the dielectric material corresponding to the data;

an alternating current signal generation device for generating an alternating current signal and applying the alternating current signal to the dielectric material;

an oscillation device for generating an oscillation signal modulated in frequency according to the capacitance of the dielectric material which is detected through the probe in a situation that the alternating current signal is being applied to the dielectric material;

a demodulation device for demodulating the oscillation signal; and a data reproduction device for reproducing the data on the basis of phase information of the demodulated oscillation signal [col. 9, line 59 to col. 12, line 3].

3. The aforementioned claim 2, recites the following elements, inter alia, disclosed in Onoe:
the data reproduction device reproduces the data on the basis of a difference in phase between the alternating current signal and the demodulated oscillation signal [col. 1, line 21-30; col. 11, lines 20-54; fig. 7].

4. The aforementioned claim 3, recites the following elements, inter alia, disclosed in Onoe:
the data reproduction device reproduces the data by comparing a phase of the demodulated oscillation signal in a first period and a phase of the demodulated oscillation signal in a second period [col. 1, line 21-30; col. 11, lines 20-54; fig. 7].
5. The aforementioned claim 4, recites the following elements, inter alia, disclosed in Onoe:
the dielectric material is a ferroelectric material [col. 7, lines 1-9].
6. The aforementioned claim 5, recites the following elements, inter alia, disclosed in Onoe:
a probe for recording data to be recorded in the dielectric material and for detecting a capacitance of the dielectric material which differs depending on a polarization state of the dielectric material corresponding to the data;
a recording signal generation device for generating a recording signal corresponding to the data to be recorded;
an application device for applying the recording signal to the dielectric material through the probe;
an alternating current signal generation device for generating an alternating current signal and applying the alternating current signal to the dielectric material;
an oscillation device for generating an oscillation signal modulated in frequency according to the capacitance of the dielectric material which is detected through the probe in a situation that the alternating current signal is being applied to the dielectric material;
a demodulation device for demodulating the oscillation signal; and
a data reproduction device for reproducing the data on the basis of phase information of the demodulated oscillation signal [col. 9, line 59 to col. 12, line 3].
7. As to claims 6-7 and 11, they are claims corresponding to claims 2-3 and 4 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 2-3 and 4 respectively, above.

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8. The aforementioned claim 8, recites the following elements, inter alia, disclosed in Onoe:
a switching device [fig. 8, unit 30] for switching between a first line for sending the recording signal from the application device to the dielectric material through the probe and a second line for sending the alternating current signal from the alternating current signal generation device to the dielectric material [col. 11, lines 12-54].

9. The aforementioned claim 9, recites the following elements, inter alia, disclosed in Onoe:
the application device comprising a superimposing device for superimposing the alternating current signal onto the recording signal, and the application device applies the recording signal on which the alternating current signal is superimposed to the dielectric material through the probe [col. 11, lines 20-54].

10. The aforementioned claim 10, recites the following elements, inter alia, disclosed in Onoe:
a switching device for switching between a first line for sending the recording signal, on which the alternating current signal is superimposed, from the application device to the dielectric material through the probe and a second line for sending the alternating current signal from the alternating current signal generation device to the dielectric material [col. 11, lines 12-54].

Other prior art cited

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a) Hong et al. (US. Patent 7,170,843).
- b) Brennan et al. (US. patent 5,343,421).

Contact information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is 571-272-7625. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2600) where this application or proceeding is assigned is 571-273-8300.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dwayne Bost, who can be reached on (571) 272-7023.

Any inquiry of a general nature or relating to the status of this application should be directed to the Electronic Business Center whose telephone number is 866-217-9197 or the USPTO contact Center telephone number is (800) PTO-9199.


GAUTAM R. PATEL
PRIMARY PATENT EXAMINER

Gautam R. Patel
Primary Examiner
Group Art Unit 2627

June 2, 2007